APPENDIX A
GLOSSARY OF TERMS & ACRONYM LIST

A

AA: Auto-analyzer

Algae: Simple single-celled, colonial, or multi-celled aquatic plants. Aquatic algae are (mostly) microscopic plants that contain chlorophyll and grow by photosynthesis. They absorb nutrients from the water or sediments, add oxygen to the water, and are usually the major source of organic matter at the base of the food web.

Algal bloom: Referring to excessive growths of algae caused by excessive nutrient loading.

Anoxia: Absence of oxygen in water.

B

C

CBL: Chesapeake Biological Laboratory

Chlorophyll: Green pigment in plants that transforms light energy into chemical energy by photosynthesis.

Chlorophyll A: A type of chlorophyll found in plants and algae which makes photosynthesis possible.

CO_2: Carbon dioxide

CSI: Campbell Scientific, Inc.

CWSRF: Clean Water State Revolving Fund

D

Dissolved oxygen (DO): The concentration of oxygen (O_2) dissolved in water, usually expressed in milligrams per liter, parts per million, or percent of saturation (at the field temperature). Adequate concentrations of dissolved oxygen are necessary

to sustain the life of fish and other aquatic organisms and prevent offensive odors. DO levels are considered a very important and commonly employed measurement of water quality and indicator of a water body's ability to support desirable aquatic life. Levels above 5 milligrams per liter (mg O_2/L) are considered optimal and fish cannot survive for prolonged periods at levels below 3 mg O_2/L. Levels below 2 mg O_2/L are often referred to as hypoxic and when O_2 is less than 0.1 mg/L, conditions are considered to be anoxic.

DNR: Department of Natural Resources

DO: Dissolved oxygen

DOC: Dissolved organic carbon

DVT(s): Data visualization tools

E

Ecosystem: The interacting plants, animals, and physical components (sunlight, soil, air, water) of an area.

EDF: Environmental Defense Fund

EMPACT: Environmental Monitoring for Public Access and Community Tracking

EPA: Environmental Protection Agency

Estuary: Body of water that provides a transition zone between the freshwater of a river and the saline environment of the sea.

Eutrophication: The process by which surface water is enriched by nutrients (usually phosphorus and nitrogen) which leads to excessive plant growth.

F

% full scale: Unit of measurement for fluorescence

ft: feet

FTP: File transfer protocol

G

Geographic Information System (GIS): A computer software and hardware system that helps scientists and other technicians capture, store, model, display, and analyze spatial or geographic information.

GREEN: Global Rivers Environmental Education Network

µg/l: micrograms (10^{-6} grams)/liter

µS/cm: micro siemens per centimeter

H

HCl: Hydrochloric acid

HNO_3: Nitric acid

H_2SO_4: Sulfuric acid

HPL: Horn Point Laboratory

Hypoxia: Physical condition caused by low amounts of dissolved oxygen in water (i.e., less than 2 mg/L).

I

IC: Inorganic carbon

IMS: Information Management System

J

K

L

L: liter

LaMP: Lakewide Management Plans

M

m: meters

mg: milligrams

mg/L: milligrams/liter

Monitor: To track a characteristic, such as dissolved oxygen, nitrate level, or fish population, over a period of time using uniform methods to evaluate change.

MS: Military style

N

NAIB: National Aquarium in Baltimore

NALMS: North American Lake Management Society

NaOH: Sodium hydroxide

Near-real-time: Refers to data current enough to be used in day-to-day decision-making. These data are collected and distributed as close to real time as possible. Reasons for some small time delays in distributing the collected data include the following: (1) the time it takes to physically transmit and process the data, (2) delays due to the data transmission schedule (i.e., some collected data are only transmitted in set time intervals as opposed to transmitting the data continuously), and (3) the time it takes for automated and preliminary manual QA/QC.

NH_3: Ammonia

NH_4: Ammonium ion

NOAA: National Oceanic and Atmospheric Administration

nm: Nanometer, 10^{-9} meter

Non-point Source: Diffuse, overland runoff containing pollutants. Includes runoff collected in storm drains.

NRCS: Natural Resources Conservation Service

NTU: Nephelometric turbidity unit

Nutrient loading: The discharge of nutrients from the watershed into a receiving water body (e.g., wetland). Expressed usually as mass per unit area per unit time (kg/hectare/yr or lbs/acre/year).

O

ORD: Office of Research and Development

Organic: Refers to substances that contain carbon atoms and carbon-carbon bonds.

OWOW: Office of Wetlands, Oceans, and Watersheds

P

pH scale: A scale used to determine the alkaline or acidic nature of a substance. The scale ranges from 0 to 14 with 0 being the most acidic and 14 the most basic. Pure water is neutral with a pH of 7.

Parameter: Whatever it is you measure - a particular physical, chemical, or biological property that is being measured.

Pfiesteria Piscicida: A toxic dinoflagellate that has been associated with fish lesions and fish kills in coastal waters from Delaware to North Carolina.

Photosynthesis: The process by which green plants convert carbon dioxide to sugars and oxygen using sunlight for energy.

ppt: parts per thousand

Point Source: A pipe that discharges effluent into a stream or other body of water.

Primary Productivity: The productivity of the photosynthesizers at the base of the food chain in ecosystems. (Adapted from the USGS Water Science Glossary at http://wwwga.usgs.gov/edu/dictionary.html.)

PVC: Polyvinyl chloride

Q

Quality Assurance/Quality Control (QA/QC): QA/QC procedures are used to ensure that data are accurate, precise, and consistent. QA/QC involves established rules in the field and in the laboratory to ensure that samples are representative of the water you are monitoring, free from contamination, and analyzed following standard procedures.

R

Remote Monitoring: Monitoring is called *remote* when the operator can collect and analyze data from a site other than the monitoring location itself.

Runoff: Precipitation, snow melt, or irrigation water that appears in uncontrolled surface streams, rivers, drains or sewers. Runoff may be classified according to speed of appearance after rainfall or melting snow as direct runoff or base runoff, and according to source as surface runoff, storm interflow, or ground-water runoff. (Adapted from the USGS Water Science Glossary at http://wwwga.usgs.gov/edu/dictionary.html.)

S

Salinity: Measurement of the mass of dissolved salts in water. Salinity is usually expressed in ppt.

SAV: Submerged aquatic vegetation

SC: Specific conductance

Sediment: Fine soil or mineral particles

SMSA: Standard metropolitan statistical area

Sonde: A group of sensors configured together to measure specific physical properties of water. A sonde may be attached to a single recording unit or electronic data logger to record the output from the group of sensors.

Specific Conductance (SC): The measure of how well water can conduct an electrical current. Specific conductance indirectly measures the presence of compounds such as sulfates, nitrates, and phosphates. As a result, specific conductance can be used as an indicator of water pollution. Specific conductivity is usually expressed in μS/cm.

Stratification: An effect where a substance or material is broken into distinct horizontal layers due to different characteristics such as density or temperature. (Adapted from Water on the Web at http://wow.nrri.umn.edu/wow.)

STP: Sewage treatment plant

Suspended solids (SS or Total SS [TSS]): Very small particles that remain distributed throughout the water column due to turbulent mixing exceeding gravitational sinking.

T

TDS: Total dissolved solids

Timely data: Data that are collected and communicated to the public in a time frame that is useful to their day-to-day decision-making about their health and the environment, and relevant to the temporal variability of the parameter measured.

TOC: Total organic carbon

TSS: Total suspended solids

Turbidity: The degree to which light is scattered in water because of suspended organic and inorganic particles. Turbidity is commonly measured in NTU's.

U

USGS: United States Geological Survey

V

W

Watershed: The entire drainage area or basin feeding a stream or river. Includes surface water, groundwater, vegetation, and human structures.

WET: Water Education for Teachers

WMC: Watershed Management Council

X

Y

YSI: Yellow Springs Instruments, Inc.

Z